

**RE: Recommended AM based JEM**

**Brattin, Bill** to: Benson.Bob, Bateson.Thomas

10/01/2012 04:03 PM

From: "Brattin, Bill" <brattin@srcinc.com>

To:

Cc: DeVoney.Danielle@epamail.epa.gov, Berry.David@epamail.epa.gov, "HILBERTJ@UCMAIL.UC.EDU" <HILBERTJ@UCMAIL.UC.EDU>, Christensen.Krista@epamail.epa.gov, Kopylev.Leonid@epamail.epa.gov

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The plot using a log scale was just FYI.

If it causes confusion, it can be omitted.

I do not think fitting in log space is appropriate for deriving the AM-based JEM, only for deriving the GM-based JEM.

As Bob noted, the Appendix will present both approaches.

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**From:** Bob Benson [mailto:Benson.Bob@epamail.epa.gov]

**Sent:** Monday, October 01, 2012 12:42 PM

**To:** Thomas Bateson

**Cc:** Brattin, Bill; Danielle DeVoney; David Berry; HILBERTJ@UCMAIL.UC.EDU; Krista Christensen; Leonid Kopylev

**Subject:** Re: Recommended AM based JEM

Bill will have to answer this one.

▼ Thomas Bateson---10/01/2012 12:33:19 PM---The text: "yielded a less-pleasing fit in log-space" led me to believe you fit the functions in log-

From: Thomas Bateson/DC/USEPA/US

To: Bob Benson/R8/USEPA/US@EPA,

Cc: [brattin@srcinc.com](mailto:brattin@srcinc.com), Danielle DeVoney/DC/USEPA/US@EPA, David Berry/R8/USEPA/US@EPA, Krista Christensen/DC/USEPA/US@EPA, Leonid Kopylev/DC/USEPA/US@EPA, [HILBERTJ@UCMAIL.UC.EDU](mailto:HILBERTJ@UCMAIL.UC.EDU)

Date: 10/01/2012 12:33 PM

Subject: Re: Recommended AM based JEM

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The text: "yielded a less-pleasing fit in log-space" led me to believe you fit the functions in log-space. I now see that you just plotted the same exp. and linear function that were fit in linear

space but shown in log-space. Don't you need to fit the functions in the two different spaces?

-----Bob Benson/R8/USEPA/US wrote: -----

To: Thomas Bateson/DC/USEPA/US@EPA

From: Bob Benson/R8/USEPA/US

Date: 10/01/2012 02:25PM

Cc: [brattin@srcinc.com](mailto:brattin@srcinc.com), Danielle DeVoney/DC/USEPA/US@EPA, David Berry/R8/USEPA/US@EPA, [HILBERTJ@UCMAIL.UC.EDU](mailto:HILBERTJ@UCMAIL.UC.EDU), Krista Christensen/DC/USEPA/US@EPA, Leonid

Kopylev/DC/USEPA/US@EPA

Subject: Re: Recommended AM based JEM

We think the plots in Figure 1 are correctly labeled. The red line (linear) goes negative in both plots; the blue line (exponential) stays positive in both plots. In the lower plot, the exponential has 3 segments; the linear has 2 segments because negative values cannot be shown on a log plot.

We are willing to supply fit statistics. Can you tell us more specifically what ones you want?

At this point, I am assuming that Linda can do the weighted calculations in SAS. Bill has a call with UC tomorrow to discuss a schedule. If we need some statistical help, we will contact you.

Thomas Bateson---10/01/2012 11:45:54 AM---Bob, The lower panel of Figure 1 appear to reverse the colors and labeling of the two functions.

From: Thomas Bateson/DC/USEPA/US

To: Bob Benson/R8/USEPA/US@EPA,

Cc: [brattin@srcinc.com](mailto:brattin@srcinc.com), Danielle DeVoney/DC/USEPA/US@EPA, David Berry/R8/USEPA/US@EPA, Krista Christensen/DC/USEPA/US@EPA, Leonid Kopylev/DC/USEPA/US@EPA, [HILBERTJ@UCMAIL.UC.EDU](mailto:HILBERTJ@UCMAIL.UC.EDU)

Date: 10/01/2012 11:45 AM

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Bob,

The lower panel of Figure 1 appear to reverse the colors and labeling of the two functions. Further, the exponential fx only has two segments.

I would also like to know what the fit statistics are for these functions and for those in the previous modeling efforts. I think the justification sounds good but the fit numbers need to be made available.

As for the weighted functions, Krista can very likely implement the SAS code if someone can share the data and older code. I don't think the weight should be jettisoned for expediency when we have staff that can complete it.

Thanks,  
Tom

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-----Bob Benson/R8/USEPA/US wrote: -----

To: Thomas Bateson/DC/USEPA/US@EPA, Krista Christensen/DC/USEPA/US@EPA, Leonid Kopylev/DC/USEPA/US@EPA, Danielle DeVoney/DC/USEPA/US@EPA, [HILBERTJ@UCMAIL.UC.EDU](mailto:HILBERTJ@UCMAIL.UC.EDU)  
From: Bob Benson/R8/USEPA/US  
Date: 10/01/2012 12:58PM  
Cc: David Berry/R8/USEPA/US@EPA, [brattin@srcinc.com](mailto:brattin@srcinc.com)  
Subject: Recommended AM based JEM

Thank you all for the productive discussion last Thursday! We have consolidated the discussion points into a full proposal for developing the JEM based on the arithmetic mean of the IH data sets. The recommended approach and data plots are attached. We will try to answer any questions you have.

We think this recommended approach has the following advantages:

- 1) It is qualitatively similar to the approach used by UC in deriving the GM-based JEM
- 2) It uses the IH data in a scientifically defensible manner
- 3) It uses the information on engineering controls put in place at various dates in a defensible manner
- 4) The plots show the fits are reasonable

We do not know if Linda can implement the variance weighted calculation in SAS. If that is possible, we will use the variance weighted calculations. If not, we will use the un-weighted calculations that we have now.

We do not believe that additional discussion will reveal a superior approach. Therefore, we are asking for your concurrence with the recommended approach by COB October 5 or before.

*(See attached file: Proposed Approach for JEM Oct 2012 v2.doc)*

[attachment "Proposed Approach for JEM Oct 2012 v2.doc" removed by Thomas Bateson/DC/USEPA/US]